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# UNIVERSAL
# FOOD GUIDE

AND

## Science of Eating for Health

This Book Contains More Demonstrable and Practical Food Information Than Can Be Found Between the Covers of any Other Volume Regardless of Size or Price

The Charts Herein Given Are Selected From the Greatest Living Authorities on the Subject of Food. This is the Most Valuable Collection of Food Charts that has Ever Been Compiled Into One Volume

PRICE $1.00

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# INTRODUCTION

NEVER before in the history of the world has the problem of food preservation been such an all important matter and subject of decision as today. Although this is true, this nation and the greater part of the world is now at war, therefore we must learn to conserve food. So important is this subject that if by any way at all we should have a shortage of food in fact, it might bring about the defeat of this great country in this war, and with us the defeat of all our allies with whom we are now fighting for the freedom of the world.

If you are too young, too old, or perhaps physically unfit for military service, there is still a duty for you to perform—you can assist materially in the conservation of our food supply. As the slogan for our recent Red Cross drive was, "If you cannot fight you can give," so the slogan for all time during the war should be, "IF YOU CANNOT FIGHT YOU CAN SAVE IN FOOD AND MONEY." We have shown our loyalty to the cause by our over subscription of our allotted amount to the Red Cross, so why should we not also show our future loyalty by concerted and united effort in conservation of food and food supplies.

This duty to our country is of such vital importance that I have been moved to gather together available information as to this great problem in the way of facts, statistics and drawn from my own knowledge, which same I have had printed herein.

Although you may have given your last dollar to the cause, or toward helping to care for our wounded soldiers, and supposing you are not able physically or otherwise to go to the front and take active part on the battlefield, there still remains a work for you to do: you may help in the conservation of food campaign.

I especially invite the enlistment of women, our greatest workers, in this campaign; the solving of the problem lies within the hands of our women. You women—mother, sister, wife, daughter or sweetheart—may by conserving the food in your hands and larders, assist to the greatest extent your husband, brother or sweetheart at the front. We do not know for how long a time our boys shall have to stay at the front fighting the great enemy, but while there they must have food and clothing as well as guns and amunition, and it is up to you to see that there is no real shortage of food.

Owing to the present crop outlook and to the ever increasing waste of food in our homes, it becomes necessary that some active steps be taken at once toward an endeavor at stopping the waste. With this idea in mind and with my anxiety as to the health of this great people at heart, I have arranged in the following pages numerous charts showing composition of foods, proper combination of food products, amounts of foods necessary to sustain life, together with a number of different menus. From experience I have learned that few people know the true food values of food products, so for that reason I have compiled the different economy menus showing the exact amount of food necessary to sustain life, together with the different elements contained in the products used or suggested.

In preparing this pamphlet I have embraced what I considered the very best authorities available on the food question, freely drawing on such authors as Eugene Christian, food specialist of New York City; Otto Carque of Los Angeles, Cal., and Dr. H. A. Stockdale of the City of Portland, Oregon, to whom at this time I give full credit for the matters taken from their respective works, and I am sure that this pamphlet will be invaluable to the thinking people of our nation.

Not only will this pamphlet serve as a guide and text book in the conservation of food, but in my mind it will be instrumental in bringing a better and higher standard of health, peace and happiness to all mankind.

DR. W. J. REYNOLDS, 27th and Prescott Streets, Portland, Ore.

# CHEMISTRY AND PHYSIOLOGY OF NUTRITION

## A GUIDE TO HEALTH, WEALTH AND FREEDOM

Nearly all our definite knowledge of the chemical composition of food materials and their nutritive value has been achieved within recent time. Fifty years ago nobody knew what our bodies and our foods were composed of and how the different nutritive ingredients of food served their purposes in nutrition, and even today the majority of people understand but very little about what their food contains, how it nourishes them, whether they are economical or wasteful in buying or preparing it for use, or whether or not the food is rightly fitted to the demands of the body.

Modern physiology teaches us that we need food to build and repair the various tissues of the body and to supply it with heat and energy. Every motion, every exertion of the muscles, the beating of the heart, the circulation of the blood, the respiration of the lungs, every thought of our brain, every impression that our senses receive, is attended with a waste of some portion of the tissues, and this loss must be replaced by a proper supply of food containing the corresponding elements.

Chemistry shows that our body is made up by from fifteen to twenty elements, the most abundant of which are oxygen, hydrogen, carbon, nitrogen, calcium, potassium, sodium, iron, phosphorus, sulphur, etc.: water, protein, fats, carbohydrates and mineral salts are the principal combinations into which these elements are formed.

Water, composed of hydrogen and oxygen, forms over 60 per cent of the weight of the body of the average man and is a component part of all tissues, being therefore an important constituent of our food.

Protein, composed of nitrogen, hydrogen, carbon, sulphur and phosphorus, forms about 18 per cent of the weight of our body. Protein compounds which principally repair the wear and tear of the tissues, are chiefly found in nuts, also as albumen in the white of eggs, as casein in milk, as gluten in wheat and as legumin in pulses.

Fats, composed of hydrogen, oxygen and carbon, form about 15 per cent of the body of a healthy man. They serve to maintain bodily heat and to create muscular energy and are also stored up in the body as a reserve fund to preserve the tissues in case of emergency. Fats are contained as high as to 60 per cent in nuts which contain it also in the purest form.

Carbohydrates contains the same chemical elements as the fats, only in a less concentrated form. They exist abundantly in nearly all plantfoods, especially in the starch of cereals and in the sugar of sweet fruits. Carbohydrates are not directly required, like protein, to build up or repair the cells of the body, but they are readily oxydized into carbonic acid and water, carrying on the process of combustion in the tissues, and are therefore of great value as fuel material to keep up the temperature of the body and muscular activity.

The body of the vertebrate animals is composed of fifteen elements, viz: Oxygen, hydrogen, nytrogen, carbon, calcium, phosphorus, chlorine, sulphur, potassium, sodium, magnesium, iron, silicon, fluorine, and manganese, all of which are important in the growth and perpetuation of animal life and in the performance of the various physiological functions of the organism. The twelve mineral elements, however, are not equally distributed all over the animal body, but we find that the skeleton chiefly contains calcium, that in the muscular tissues which are consumed as "meat" only potassium and phosphorus are predominant, while the mineral matter of the blood is composed principally of sodium and chlorine (from 60 to 90 per cent.) Iron is found in the haemoglobin of the red blood cor-

puscles; on account of its great affinity to oxygen it readily takes up the latter in the lungs and forwards it to the arteries and capillaries to all parts of the body; it is therefore of great value in keeping up the oxydizing processes in the tissues, and consequently in the creation of animal heat and magnetism. A deficiency of iron in the blood causes chlorosis, dyscrasia and other abnormal conditions. Sodium, on the other hand, combines with the carbonic acid which is constantly created by the oxydizing processes in the tissues and discharges it again through the lungs. Sodium and chlorine in the combination of sodium-chloride are necessary for the formation of the saliva, gastric and pancreatic juices; sodium is also found in the bile. The lack of this mineral in our food, and consequently in our blood, increases the acidity of the latter and gives rise to digestive troubles, eventually leading to chronic dyspepsia, diabetes, rheumatism, gout, etc. The sodium in the blood further serves for making the calcium oxide contained in our food more soluble and keeping it in a liquid state for perfect assimilation. The latter element in connection with some phosphorus, magnesium and silicon is building up our bones and teeth. Sulphur and silicon are necessary for an abundant growth of hair. Fluorine is found in the enamel of the teeth.

Calcium, of which meat is almost entirely deficient, makes up nearly 50 per cent of the mineral matter of our body. The lack of this element in our food is the cause of defective development of the skeleton and diseases of the bones (rickets, curvature of the spine, osteomalacia, premature decay of the teeth. etc.)

Silica, as a good insulator, has also the property to keep the heat and electricity of our body together; it has, like all alkaline minerals, a strong antiseptic power, protecting our body against epidemic diseases. Chlorine gives likewise firmity to the tissues and makes the fibres of the nerves running through the walls of the bloodvessels good conductors for the electric current which is constantly generated by the circulating, magnetic blood.

To enjoy perfect health and immunity against disease, our blood must therefore contain all these elements in their wonderful combinations; because it is the blood which carries them to the different parts of the body, nourishing and cleansing the tissues, creating animal heat, magnetism and electricity, which depend chiefly on the presence of chlorine, sodium and iron in the blood!

It is impossible within this limited space to go into further detail in regard to the varied relations of the twelve mineral elements of our body, but enough has been said to direct henceforth the studies of the chemists, physiologists, and above all, the physicians, to this highly important subject.

Fruits, nuts, vegetables and cereals, if taken judiciously, make better and purer blood and consequently give more vitality than foodstuffs which are more or less stimulants; meat weakens our digestive power, because it does not supply the elements necessary for the renewal of the digestive juices; it further fails, on account of lack of cellulose, to exert that mechanical influence upon the walls of the intestines which is necessary for the peristaltic movement of the bowels. Dyspepsia, constipation, appendicitis are common among meat-eating nations.

Nature has furnished us with teeth and salivary glands for the purpose of mastication and salivation and we have to devote a certain amount of time each day to the proper feeding of our body or suffer the consequences sooner or later. Why is it that the average duration of life of "civilized" man is hardly more than 33 years instead of a century? Why is it that we have in this country an army of over 100,000 physicians who can hardly raise the standard of health? Most assuredly because of the majority of people are still deplorably ignorant in regard to the mechanism of the body and especially to the laws of nutrition.

Waste matter is continually discharged through the lungs, kidneys, skin and intestines, fresh material is brought in, and in the course of several years our body is entirely renewed. The blood must convey all the necessary elements of

nutrition to repair the daily wear and tear of our system. The blood in turn is made from our food and drink and it is therefore by no means a matter of indifference what we eat.

In the meantime the majority of physicians are still hunting after germs and bacilli, confounding effect with cause, utterly ignorant of the most important chemical and physiological facts. What we need is not vaccine, tuberculin, antitoxin, poisonous drugs, stimulants and narcotics, but natural and wholesome food, pure water, fresh air and sunshine, which alone can give us health, strength, vitality and supreme power of resistance!

The diet question deserves altogether far more attention by the average man than it receives now. Instructions in these matters should form one of the most important parts of every common school education, as we can hardly expect that people who know little or nothing about the mechanism of their bodies will be able to maintain physical and mental vigor in themselves and their offspring.

All progressive physicians admit that a large number of diseases is due to the excessive amount of protein we take in our nourishment. On the other hand, an inadequate supply of mineral elements as has already been pointed out is equally detrimental, especially during the time of growth of the organism. Not enough can be warned of the prevalent use of white flour, refined sugar and candy which contain little or no organic salts.

In reading the chemical analysis of food materials we must bear in mind also, that we cannot always determine the food value of an article by the percentage of its constituents or its price alone, for all food which promotes health and vitality has in itself an element of economy of the highest value. Our body is sometimes likened to a steam engine, but food has more to do than to build and repair organs and supply them with energy. We have a brain and a nervous system, we have sensibilities and higher intelectual faculties, which are all more or less influenced by the quality of our nourishment.

Calcium, phosphorus, sulphur and iron are used in the formation of the essential structures of the body. Without a constant renewal of the elements of iron and sodium, the blood cannot take up sufficient oxygen and the products of combustion (carbon dioxide, uric acid, etc.,) cannot be neutralized and eliminated. As proteid substances are used up in the life processes of the cells of the body, the phosphorus and sulphur contained therein give rise to the formation of sulphuric and phosphoric acids. These and certain other acids must be neutralized in order to preserve the alkalinity of the blood and tissues. The normal alkalinity of the blood rests chiefly on the sodium ions and is essential to the physiological oxidation of the nutritive cell contents of the tissues. This alkalinity is increased by fruit and green leaf vegetables and lessened by meats, broths and cereals.

If there is a deficiency of alkaline salts in the food, ammonia, for a time, will be split off from the proteids of the body, but entire absence of alkaline salts from the food for even a brief period will cause death from autointoxication.

The alkaline salts of fruits and vegetables act as natural laxatives by promoting the action of the secreting glands; they also assist in the preservation of normal physical conditions within the cells. The chlorides furnish the chlorine of the hydrochloric acid in the gastric juice, pepsin being inactive except in the presence of hydrochloric acid. In the small intestine the alkaline salts assist in the digestion of fats.

To enjoy permanent health and immunity from disease, our blood must contain all the necessary elements in the right proportions and combinations, because it is the blood which carries them to the different parts of the body, nourishing and cleansing the tissues, creating animal heat, magnetism and electricity. As long as the importance of the organic salts in our system is not recognized and

understood, so long must there exist a deplorable guesswork, both in regard to diagnosis and the treatment of disease.

Professor W. O. Atwater, who made a number of investigations in regard to the purchase and preparation of nourishment, interpreting the observations of practical life in different parts of the country, says that a fourfold mistake in food economy is very commonly made.

First, the costlier foods are used when the less expensive are just as nutrious and can be made nearly or quite as palatable.

Second, the diet is apt to be one-sided, in that foods are used which furnish relatively too much of the nitrogenous materials and too little of the fuel-ingredients.

Third, excessive quantities of food are used; part of the excess is eaten and always to the detriment of health; part is thrown away in the table and kitchen waste.

Fourth, we are guilty of serious errors in our cooking. We waste a great deal of fuel in the preparation of our food, and even then a great deal of food is badly cooked:

Few people, indeed, seem to realize what an immense quantity of the very best food material is lost in the artificial preparation of our nourishment and if we would gather statistics in this respect, the figures would be astonishing. In spite of the wonderful progress of science during the last century the average housewife seems still to live in complete darkness in regard to the most important factors on which health and happiness in life depend.

A great field for useful reform opens here and the large number of missionaries who go to foreign lands every year, would find a splendid opportunity to show their usefulness right at home, by teaching the people the simple laws of nature and hygiene.

As a result of thorough mastication, not only a smaller quantity of food is required, but it is also unquestionable that there is a still greater saving in the economy of vital energy. It certainly takes strength and vigor to digest the unnecessary food stuffs. When they are not digested, they ferment and decompose and cause all forms of physical disturbances, including neuralgia, rheumatism, lassitude, obesity, dropsy, kidney and bladder troubles; in fact, there is hardly a disease which is not aggravated or induced by an over-consumption of food imperfectly digested.

The housewife often prides herself in the preparation of sumptuous dinners, but she forgets that in most instances the sun has already done all the necessary cooking and that she can hardly improve on the natural qualities and flavors of the food. On the other hand, the display of a great variety of dishes at one meal and the extensive use of condiments always lead to over-eating.

If the world's most successful athletes find that a high degree of physical health is best attained by eating little or no meat, and such tremendous mental and physical workers as Thomas Edison and Nicholas Tesla do not find meat a necessary article of diet, then we need not fear to experiment a little in the same direction.

People living on a cooked diet must therefore have, as they say, at least three square meals a day and yet the majority of them are dyspeptic and half-starved, otherwise the many manufacturers of "dyspepsia tablets and pills" could not spend millions of dollars for advertisements every year, in order to unload their nostrums upon an ignorant public who are still foolish enough to believe that health can be bought in the drug store.

During the past century steam and electricity have greatly revolutionized human society and wonderful industrial achievements have been made, yet it appears to the close observer that our progress has been one-sided in many respects and that throughout the civilized world millions still suffer from want of shelter

and food. The great investigators and inventors were certainly striving for the emancipation of mankind but their hopes have not yet been realized. The development of industry has drawn many people from the country to the cities, and agriculture and horticulture have been neglected, much to the detriment of man's welfare.

Today, hundreds of thousands of human beings are huddled together like cattle in sweat-shops and factories, producing luxuries for foreign lands while they themselves and their families are often deprived of the very necessities of life. Go to the industrial and mining districts of every country, watch how the consumptive, half-starved men and women and children are staggering to and from their places of toil.

Agriculture and horticulture are at their infancy and the peasant is generally pictured as "the man with the hoe," or bending over the plow, working from morn till night, and reaping as a reward a rude bed, dry bread, and a dreary life of drudgery and toil. But in the future we will find the cultivator of the soil standing erect, enjoying ample leisure, and producing by a few hour's work each day sufficient food to nourish, not only his own family, but a hundred men more. The agriculturist of the future will be able to make his own soil, defy seasons and climates, warm both air and earth by giving to the culture of the field no more time than what each can do with pleasure and ease.

While it is true that in some of the leading countries, like England and North America, an excess of meat is eaten, the injurious influence of such a diet is already felt, and there is a striking evidence that the people of the larger towns at any rate are physically deteriorating. During the recent war with the Boers it occurred that of 11,000 men who volunteered at Manchester for service in South Africa, only 3000 were accepted as physically fit, and of these only 1200 came up to the standard of what a soldier ought to be; and Colonel Borrett, the Inspector-General of Recruiting, in his recently published record, intimates that of 75,000 men medically examined, as many as 22,283, or 29.04 per cent, were rejected for various ailments or want of physical development, adding that among the class of men from which recruits are drawn deterioration of the teeth appears to be rapidly increasing. As of course only men with what is regarded as a reasonable prospect of acceptance present themselves at recruiting stations, there must be among the masses, behind the dismal squad of the rejected, huge battalions of patently disqualified men—mentally defective, deformed, crippled, scrofulous, purblind, narrow-chested—to whom no thought of soldiership ever occurs. The sum total of our physical shortcomings must be a figure that would be woeful to contemplate.

Every child has a divine right to the best possible birth its parents can give it, and this fact should be more widely recognized, especially among the more intelligent and progressive people. The formation of the character of the child must begin with the self-reformation of all who want to perpetuate their own life in that of their offspring.

In her noble struggle for independence woman now look for suffrage, but she will find that she is chasing after a phantom and she can never gain exemption from drudgery, as little as man, by the ballot alone, If she would devote the same time that she now spends for the follies of fashion, reading slippery novels, gossipping or doing unnecessary kitchen work, to study and practice of the laws of of nature and health, she would soon be able to free herself from the many tribulations which fill her life with suffering and sorrow.

To be sure, many are forced by lack of opportunity into a miserable struggle for existence; but it is more the undervaluation of his own powers, the failure to recognize and develop the divine spark which nature has implanted in every human being that keeps man from rising to the higher realms of life. For thous-

ands of years he has been trampled and humiliated, because he has looked up to a "great unknown power" which would deliver him from all evil; he has sought his God everywhere but in himself. Every man is a part of the Supreme Intelligence which pervades the universe, and by constantly and perseveringly developing his mental and physical faculties he will at last come to the realization of his own almost unlimited powers and possibilities.

In the present enervating struggle for existence man should be first of all taught how to take proper care of himself, how to fully develop body and mind and to live a full and useful life, useful to himself and to others. The study of anatomy, physiology and hygiene should form an important part of every common school education, as we can hardly expect that people who know little or nothing about the mechanism of their bodies will be able to maintain physical and mental vigor in themselves and their offspring.

Unfortunately, much that is called education at present simply unfits man to successfully fight the battle of life. Thousands are wasting time with the study of things which will be of little or no value to them or others.

The great need of the present time is, above all, a better standard of health and morals. Nature has intended that man should live at least one hundred years; he should increase his physical and mental powers until he is fifty years of age, and retain them at least for another score of years. Yet comparatively few instances are on record of vigorous men at seventy. But when man comes to live hygeienically he will enjoy ninety and a hundred years of vigorous adult life, or more than threefold than now.

With the increasing knowledge of our actual position in nature, we may hopefully look forward to the time when an age of temperance, an age of sanitary reform, an age of plain living and high thinking shall have man so regenerated that he will walk the earth a century or more, carrying out the great law of evolution which culminates in the physical and mental perfection of the human race.—Otto Carque, Author and Food Expert, of Los Angeles, California.

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**Figs Compared with Cereals and Milk**

| | Human Milk | Black Figs Fresh | Black Figs Dried | Whole Wheat Bread |
|---|---|---|---|---|
| Water | 87.75 | 79.00 | 20.00 | 38.40 |
| Protein | 1.00 | 1.50 | 5.50 | 9.70 |
| Fat | 3.95 | 0.20 | 1.00 | 0.90 |
| Starch | | | | 53.20 |
| Sugar | 6.25 | 18.70 | 63.00 | |
| Cellulose | | | 7.30 | 1.60 |
| Organic Salts | 0.45 | 0.60 | 3.00 | 1.50 |

**Organic Salts in 1000 Parts of Water-Free Substance**

| | Human Milk | Black Figs | Whole Wheat | White Flour |
|---|---|---|---|---|
| Potassium | 11.73 | 10.50 | 7.20 | 1.82 |
| Sodium | 3.16 | 9.60 | 0.50 | 0.08 |
| Calcium | 5.80 | 3.50 | 0.75 | 0.43 |
| Magnesium | 0.75 | 3.40 | 2.80 | 0.44 |
| Iron | 0.07 | 0.60 | 0.30 | 0.03 |
| Phosphorus | 7.84 | 6.30 | 10.00 | 2.80 |
| Sulphur | 0.33 | 2.70 | 0.09 | |
| Silicon | 0.07 | 2.40 | 0.46 | |
| Chlorine | 6.38 | 1.00 | 0.07 | |
| Total . . . . | 34.70 | 40.00 | 23.10 | 5 70 |

# MINERAL MATTER IN 1000 PARTS OF WATER-FREE FOOD PRODUCTS.

| | Total Salts | Potassium ($K_2O$) | Sodium ($Na_2O$) | Calcium (CaO) | Magnesium (MgO) | Iron ($Fe_2O_3$) | Phosphorus ($P_2O_5$) | Sulphur ($SO_3$) | Silicon ($SiO_2$) | (Chlorine (Cl) |
|---|---|---|---|---|---|---|---|---|---|---|
| Human milk | 34.70 | 11.73 | 3.16 | 5 80 | 0.75 | 0.07 | 7.84 | 0.33 | 0.07 | 6.38 |
| Cow's milk | 55.50 | 13.70 | 5.34 | 12.24 | 1.69 | 0.30 | 15.79 | 0.17 | 0.02 | 8.04 |
| Meat (average) | 40.00 | 16.52 | 1.44 | 1.12 | 1.28 | 0.28 | 17.00 | 0.64 | 0.44 | 1.56 |
| Eggs | 41.80 | 6.27 | 9.56 | 4.56 | 0.46 | 0.17 | 15.72 | 0.13 | 0.13 | 3.72 |
| Seafish | 84.20 | 18.35 | 12.55 | 12.80 | 3.28 | ---- | 32.13 | ---- | ---- | 9.60 |
| Cottage Cheese | 64.30 | 8.50 | 0.90 | 22.50 | 1.50 | 0.50 | 24.35 | 0.10 | ---- | 11.20 |
| Apples | 33.00 | 11.78 | 8.61 | 1.35 | 2.89 | 0.46 | 4.52 | 2.01 | 1.42 | ---- |
| Strawberries | 65.00 | 13.72 | 18.53 | 9.23 | ---- | 3.73 | 7.97 | 2.05 | 7.82 | 1.10 |
| Gooseberries | 29.00 | 11.22 | 2.87 | 3.54 | 1.70 | 1.32 | 5.71 | 1.71 | 0.75 | 0.22 |
| Prunes | 37.75 | 18.28 | 3.41 | 4.34 | 1.36 | 0.94 | 6.03 | 1.21 | 1.19 | 0.15 |
| Peaches | 17.60 | 9.63 | 1.50 | 1.41 | 0.92 | 0.18 | 2.67 | 1.00 | 0.26 | ---- |
| Cherries | 34.60 | 17.94 | 0.76 | 2.60 | 1.90 | 0.69 | 5.54 | 1.76 | 3.11 | 0.48 |
| Grapes | 25.20 | 14.16 | 0.35 | 2.72 | 1.06 | 0.45 | 3.93 | 1.41 | 0.70 | 0.38 |
| Figs | 41.00 | 11.63 | 10.77 | 7.75 | 3.78 | 0.60 | 0.53 | 2.77 | 2.43 | 1.10 |
| Olives | 33.40 | 27.02 | 2.52 | 2.49 | 0.06 | 0.31 | 0.46 | 0.36 | 0.22 | 0.06 |
| Apricots | 33.60 | 19.68 | 3.76 | 1.08 | 2.89 | 0.46 | 4.52 | 2.01 | 1.42 | ---- |
| Pears | 25.60 | 14.00 | 2.17 | 2.05 | 1.52 | 0.25 | 3.90 | 1.45 | 0.38 | ---- |
| Watermelons | 40.00 | 18.00 | 3.75 | 4.00 | 2.10 | 1.75 | 5.60 | 2.10 | 7.60 | 1.10 |
| Bananas | 32.40 | 16.20 | 0.80 | 0.25 | 0.32 | 0.10 | 2.03 | 0.21 | ---- | 2.47 |
| Oranges | 38.15 | 18.62 | 0.95 | 8.65 | 2.03 | 0.39 | 4.70 | 2.00 | 0.25 | 0.29 |
| Spinach | 191.00 | 21.71 | 57.42 | 22.73 | 12.22 | 6.40 | 19.58 | 13.18 | 8.60 | 12.03 |
| Onions | 48.40 | 12.10 | 1.55 | 10.65 | 2.55 | 2.20 | 7.25 | 2.65 | 8.10 | 1.35 |
| Carrots | 69.00 | 25.46 | 14.63 | 1.80 | 3.04 | 0.70 | 8.83 | 4.45 | 1.66 | 3.18 |
| Asparagus | 86.40 | 20.74 | 14.77 | 9.33 | 3.72 | 2.94 | 16.07 | 5.36 | 9.50 | 5.10 |
| Radishes | 110.40 | 35.33 | 23.37 | 15.45 | 3.42 | 3.09 | 12.03 | 7.18 | 1.00 | 10.10 |
| Cauliflower | 91.20 | 40.46 | 5.38 | 5.10 | 3.37 | 0.91 | 18.42 | 11.86 | 3.37 | 3.10 |
| Cucumbers | 100.00 | 41.20 | 10.00 | 7.30 | 4.15 | 1.40 | 20.20 | 6.90 | 8.00 | 6.60 |
| Lettuce | 180.70 | 67.94 | 13.55 | 26.56 | 11.20 | 9.40 | 16.62 | 6.87 | 14.64 | 13.82 |
| Potatoes | 44.20 | 26.56 | 1.33 | 1.15 | 2.18 | 0.48 | 7.47 | 2.89 | 0.88 | 1.55 |
| Cabbage | 123.00 | 45.33 | 11.68 | 21.65 | 4.90 | 0.86 | 11.07 | 17.10 | 1.10 | 10.45 |
| Tomatoes | 176.00 | 82.50 | 32.90 | 11.35 | 13.55 | 1.00 | 10.75 | 5.00 | 7.75 | 18.-- |
| Red Beets | 41.65 | 8.45 | 21.60 | 2.50 | 0.10 | 1.00 | 2.55 | 0.50 | 2.00 | 2.95 |
| Celery | 180.00 | 48.60 | 65.25 | 14.70 | 6.75 | 1.60 | 14.50 | 6.50 | 4.30 | 17.80 |
| Walnuts | 17.40 | 2.20 | 0.17 | 0.97 | 2.88 | 0.61 | 10.10 | 0.22 | 0.12 | 0.12 |
| Almonds | 21.00 | 2.31 | 0.38 | 3.04 | 3.95 | 0.23 | 10.10 | 0.96 | 0.04 | 0.06 |
| Cocoanuts | 18.70 | 8.21 | 1.57 | 8.60 | 1.76 | --- | 2.18 | 0.95 | 0.09 | 2.50 |
| Lentils | 34.70 | 12.08 | 4.62 | 2.18 | 0.87 | 0.69 | 12.60 | --- | ---- | 1.61 |
| Peas | 30.05 | 15.06 | 0.30 | 1.45 | 2.42 | 0.24 | 10.87 | 1.03 | 0.27 | 0.53 |
| Beans | 38.20 | 15.85 | 0.42 | 1.91 | 2.73 | 0.19 | 14.86 | 1.30 | 0.25 | 0.69 |
| Peanuts | 24.30 | 9.27 | 0.21 | 0.95 | 2.29 | 0.27 | 10.60 | 0.45 | 0.05 | 0.23 |
| Whole Wheat | 23.10 | 7.20 | 0.50 | 0.75 | 2.80 | 0.30 | 10.90 | 0.09 | 0.46 | 0.07 |
| White Flour | 5.70 | 1.82 | 0.08 | 0.43 | 0.44 | 0.03 | 2.80 | --- | ---- | ---- |
| Rye | 21.30 | 6.84 | 0.31 | 0.61 | 2.39 | 0.25 | 10.16 | 0.28 | 0.30 | 0.01 |
| Barley | 31.30 | 5.10 | 1 28 | 0.02 | 3.92 | 0.53 | 10.27 | 0.93 | 8.98 | ---- |
| Oats | 34.50 | 6.18 | 0.59 | 1.24 | 2.45 | 0.41 | 8.83 | 0.62 | 13.52 | 0.03 |
| Corn | 18.50 | 5.50 | 0.02 | 0.04 | 2.87 | 0.15 | 8.44 | 0.15 | 0.39 | 0.35 |
| Whole Rice | 16.00 | 3.60 | 0.67 | 0.59 | 1.78 | 0.22 | 8.60 | 0.08 | 0.42 | 0.02 |
| Rice, polished | 4.00 | 0.87 | 0.22 | 0.13 | 0.45 | 0.05 | 2.15 | 0.03 | 0.11 | 0.01 |

[Compiled by Otto Carque for "Brain and Brawn," Los Angeles, February, 1913.]
Carque Pure Food Co., 1607 Magnolia Avenue, Los Angeles

# ECONOMY FOOD CHART

Showing relation of the different food constituents and prices, using **Rolled Oats** as a basic food, embracing Portland, Oregon prices of July 15, 1917.

| | RICH IN CARBO-HYDRATES OR STARCH AND SUGAR | Fuel Value Per Pound Calories | Price | Ratio | Water | Protein | Fat | Carbo Hydrates | Ash or Mineral | Per cent of Food | Refuse |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Sugar | 1800 | 9 | 1½ | | | | 100 | | 100 | |
| 2 | Potatoes | 400 | 4 | 3 | 75 | 2.5 | 1. | 21 | 1. | 25.5 | |
| 3 | Dates | 1450 | 20 | 5½ | 13.8 | 1.9 | 2.5 | 70.6 | 1.2 | 76.2 | 10 |
| 4 | Figs | 1475 | 20 | 5½ | 18.8 | 4.3 | .3 | 74.2 | 2.4 | 78.8 | |
| 5 | Prunes | 1200 | 10 | 2½ | 19 | 1.8 | | 62.2 | 2. | 66 | 15 |
| 6 | Raisins | 1600 | 15 | 3 | 13 | 2.3 | 3 | 68.5 | 3.1 | 73.8 | 10 |
| 7 | Pears, dried | 1600 | 15 | 3 | 16.5 | 2.8 | 5.4 | 72.9 | 2.4 | 81.1 | |
| 8 | Bananas | 300 | 5 | 5 | 49 | .8 | .4 | 14.3 | .6 | 15.5 | 35 |
| 9 | Onions | 200 | 4 | 6 | 78.9 | 1.4 | .3 | 8.9 | .5 | 11 | 10 |
| 10 | Milk | 325 | 5 | 4 | 87 | 3.3 | 4 | 5 | .7 | 13 | |
| 11 | Skimmed Milk | 160 | 1¼ | 2½ | 9.05 | 3.4 | .3 | 5 | .7 | 9.5 | |
| 12 | Buttermilk | 160 | 2½ | 5 | 91 | .3 | .5 | 4.8 | .7 | 9. | |
| 13 | Apples, fresh | 220 | 6 | 7 | 63.3 | .3 | .3 | 10.8 | .3 | 11.5 | 25 |
| 14 | Apples, dried | 1350 | 20 | 5 | 28 | 1.6 | 2.2 | 6.6 | 2 | 69.8 | |
| | ***RICH IN FAT*** | | | | | | | | | | |
| 1 | Butter | 3600 | 45 | 4 | 11 | 1 | 85 | | .3 | 89 | |
| 2 | Olive Oil | 4000 | 60 | 5 | | | | | | | |
| 3 | Cream | 910 | 20 | 6⅔ | 74 | 25 | 18.5 | 4.5 | .5 | 2.6 | |
| 4 | English Walnuts | 1400 | 25 | 5 | 1. | 7. | 26.6 | 6.8 | .6 | 41 | 58 |
| 5 | Bacon | 2700 | 35 | 4 | 18.4 | 9.5 | 59.4 | | 4.5 | 63.4 | 8.7 |
| 6 | Suet | 3540 | 15 | 1¼ | 13.7 | 4.7 | 81.8 | | .3 | 86.5 | |
| 7 | Lard | 4220 | 28 | 2 | | | 100 | | | 100 | |
| | ***RICH IN PROTEIN*** | | | | | | | | | | |
| 1 | Rolled Oats | 1800 | 6 | 1 | 7.7 | 16.7 | 7.3 | 66.2 | 2.1 | 92.3 | |
| 2 | Corn Meal | 1600 | 8 | 1½ | 12.6 | 9.2 | 2 | 75.4 | 1 | 87.4 | |
| 3 | Whole Wheat | 1600 | 8 | 1½ | 11.4 | 13.8 | 2 | 72 | 1 | 88.6 | |
| 4 | Bread | 1200 | 10 | 2½ | | | | | | | |
| 5 | Peas | 1600 | 15 | 3 | 9.5 | 24.6 | 1 | 62 | 3 | 90.5 | |
| 6 | Beans | 1600 | 15 | 3 | 12.6 | 22.5 | 1.8 | 59.6 | 3.5 | 87.4 | |
| 7 | Macaroni | 1600 | 10 | 2 | 10 | 13 | 1 | 74 | 1.3 | 90 | |
| 8 | Roast Beef | 1600 | 20 | 4 | 44 | 23.6 | 27.7 | | 1.5 | 64.5 | |
| 9 | Cream Cheese | 2000 | 30 | 4½ | 34 | 26 | 33.7 | 2.4 | 3.8 | 66 | |
| 10 | Cottage Cheese | 500 | 15 | 9 | 72 | 21 | 1 | 4.3 | 1.8 | 28 | 2.5 |
| 11 | Peanuts | 2000 | 10 | 1½ | 7 | 19.5 | 2.9 | 18.5 | 15 | 68 | |
| 12 | Peanut Butter | 2800 | 18 | 2 | 21 | 29.3 | 46.5 | 17.1 | 4.1 | 94 | |
| 13 | Eggs | 800 | 40 | 15 | 65 | 11.7 | 10.7 | | .7 | 23 | 11.2 |
| 14 | Chicken | 300 | 25 | 25 | 43.7 | 12.8 | 1.4 | | .7 | 15 | 41.6 |
| 15 | Oysters | 330 | 60 | 45 | 83.4 | 8.8 | 2.4 | 3.9 | 1.5 | 14.6 | |
| 16 | Boiled Ham | 1320 | 45 | 10 | 51.3 | 20.2 | 22.4 | | 6.1 | 42.6 | |
| | ***RICH IN MINERAL OR ASH*** | | | | | | | | | | |
| 1 | Tomatoes | 100 | 15 | 45 | 94.3 | .9 | .4 | 3.9 | .5 | 5.2 | |
| 2 | Lettuce | 90 | 10 | 35 | 94.7 | 1.2 | .3 | 2.9 | .9 | 4.4 | |
| 3 | Spinach | 110 | 5 | 15 | 92.3 | 2.1 | .3 | 3.2 | 2.1 | 5.6 | |
| 4 | Strawberries | 180 | 20 | 35 | 90.4 | 1 | .6 | 7.4 | .6 | 9 | |
| 5 | Cucumbers | 80 | 10 | 30 | 95.4 | .8 | .2 | 3.1 | .5 | 4.1 | |
| 6 | Carrots | 210 | 5 | 7 | 88.2 | 1.1 | .4 | 9.3 | 1 | 10.8 | |
| 7 | Celery | 85 | 10 | 35 | 94.5 | 1.1 | .1 | 3.3 | 1 | 4.5 | |
| 8 | Turnips | 185 | 5 | 8 | 89.6 | 1.3 | .2 | 8.1 | .8 | | |
| 9 | Green Peas | 465 | 20 | 12 | 74.6 | 7 | .5 | 16.9 | 1 | | |
| 10 | Bananas | 460 | 15 | 10 | 75.3 | 1.3 | .6 | 22 | .8 | | |

## ECONOMY MENUES

These Menues are scientifically compiled embracing the right proportions and constituents. The daily requirement is about 3½ oz. Protein, 3 oz. of Fat and about 13 oz. Carbo-Hydrates. Each Menu contains the necessary vegetables from which the Mineral Salts is obtained. We advise them taken in two meals. Menu No. 1 contains 3415 Calories, costing 34c. and is compiled for the man doing the most strenuous kind of work.

| QUANTITY | KIND OF FOOD | Protein | Fat | Carbo Hydrates | Cost | Calories |
|---|---|---|---|---|---|---|
| | | OUNCE | OUNCE | OUNCE | CENTS | |
| 4 Ounces | Oatmeal | 1 | | 3 | 1½ | 450 |
| 4 " | Cream | | 1 | ¼ | 5 | 225 |
| 2 " | Eggs | 1 | ½ | ½ | 6 | 140 |
| 6 " | Whole Wheat Bread | 1 | | 5 | 4 | 450 |
| 1 " | Butter | | 1 | | 3 | 225 |
| 1 Pound | Potatoes | | | 3 | 4 | 400 |
| 1 Head | Lettuce | | | | 5 | 90 |
| 1 Ounce | Sugar | | | 1 | ½ | 110 |
| 1 " | Cheese | ½ | ½ | | 2 | 125 |
| 1 Glass | Milk | ½ | | ½ | 2 | 160 |
| 3 Ounces | Carrots | | | ⅓ | 1 | 40 |
| | Totals . . . . | 4 | 3 | 13½ | 34 | 2415 |

Contains 2400 calories at a cost of 32 cents. This menu is suitable for the average working man.

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 Ounces | Whole Wheat | ½ | | 2½ | 2 | 300 |
| 3 " | Cream | | 1 | ¼ | 5 | 225 |
| 4 " | Bread | ½ | | 2½ | 2 | 225 |
| 1 " | Butter | | 1 | | 3 | 225 |
| 2 " | Rice | | | 2 | 1 | 200 |
| 2 " | Sugar | | | 2 | 1 | 210 |
| 1 Pound | Potatoes | | | 3 | 4 | 400 |
| 3 Ounces | Beef | 2 | 1 | | 4 | 300 |
| 1 Pound | Greens | | | | 5 | 110 |
| 4 Ounces | Turnips | | | | 2 | 45 |
| 1 Cup | Coffee | | | | 1 | |
| 1 Glass | Milk | ½ | | ½ | 2 | 160 |
| | Totals . . . . | 3½ | 3 | 13 | 32 | 2400 |

Contains 2545 calories at a cost of 29 cents, an average working man's allowance.

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 Ounces | Cream of Wheat | ½ | | 2½ | 3 | 300 |
| 1 " | Sugar | | | 1 | ½ | 105 |
| 4 " | Bread | 1 | | 3 | 2 | 300 |
| 2 " | Butter | | 2 | | 5 | 440 |
| 2 " | Macaroni | ¼ | | 2 | 1½ | 200 |
| 1 " | Cheese | ½ | ½ | | 2 | 125 |
| 1 Pound | Potatoes | ⅛ | | 3 | 4 | 400 |
| 1 Bunch | Celery | | | | 3 | 20 |
| 2 Ounces | Beets | | | | 2 | 30 |
| 2 " | Suet | | 2 | | 2 | 440 |
| 2 " | Onions | | | | 1 | 25 |
| 2 " | Prunes | ½ | | 1½ | 1½ | 150 |
| 1 Cup | Coffee | | | | 1 | |
| | Totals . . . . | 3 | 4½ | 13 | 29 | 2545 |

[Compiled by Dr. W. J. Reynolds, 27th and Prescott Streets, Portland, Oregon.]

This will give you a fair idea of how the average person, who knows nothing of food values, selects his food, 2775 calories at a cost of 70½ cents. Compare this with your Economy Food Menus. If your system requires certain elements, consult your Chart.

| QUANTITY | KIND OF FOOD | Protein | Fat | Carbo Hydrates | Cost | Calories |
|---|---|---|---|---|---|---|
| | | OUNCE | OUNCE | OUNCE | CENTS | |
| 3 Ounces | Grape Nuts | 1 | | 2 | 4 | 300 |
| 4 " | Cream | | 1 | ¼ | 5 | 225 |
| 3 " | Eggs | ⅜ | ⅜ | | 6 | 140 |
| 4 " | Bread | 1 | | 3 | 3 | 300 |
| 3 " | Strawberries | | | ½ | 4 | 35 |
| 2 " | Butter | | 2 | | 6 | 450 |
| 3 " | Macaroni | 1 | | 2 | 2 | 300 |
| 1 " | Cheese | ½ | ½ | | | 125 |
| 2 " | Green Peas | | | | 5 | 60 |
| 1 Pint | Milk | ½ | ½ | 2 | 5 | 320 |
| 2 Ounces | Sugar | | | 2 | 1 | 225 |
| 4 " | Oysters | ½ | | | 15 | 80 |
| 3 " | Celery | | | | 3 | 20 |
| 2 " | Cottage Cheese | ½ | | | 2 | 60 |
| 4 " | Chicken | ¾ | | | 6 | 75 |
| 1 Cup | Coffee | | | | 1 | |
| 2 Ounces | Bananas | | | ½ | 2½ | 60 |
| | Totals . . . . | 6 | 4½ | 12 | 70½ | 2775 |

This Menu contains 3290 calories at a cost of 36 cents. The person leading a sedentary life or doing very light work, 2000 calories is about the right amount of food, so you will be able to sufficiently judge your requirements from these menus.

Chew your food to a liquid.

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 Ounces | Rolled Oats | ½ | | 1½ | ¾ | 225 |
| 1 Pint | Milk | ½ | | ½ | 5 | 160 |
| 2 Ounces | Pears (dried) | | | 1½ | 2 | 200 |
| 2 " | Peas (dried) | ½ | | 1½ | 2 | 200 |
| 2 " | Suet | | 2 | | 2 | 440 |
| 6 " | Bread | 1 | | 5 | 4 | 450 |
| 1 Pound | Potatoes | | | 3 | 4 | 400 |
| 2 Ounces | Butter | | 2 | | 5 | 450 |
| 2 " | Cauliflower | | | | 2 | 15 |
| 2 " | Raisins | | | 1½ | 2 | 200 |
| 3 " | Macaroni | ½ | | 2 | 2 | 300 |
| 2 " | Cheese | 1 | 1 | | 4 | 250 |
| 1 Cup | Coffee | | | | 1 | |
| | Totals . . . . | 4 | 5 | 16½ | 36 | 3290 |

[Compiled by Dr. W. J. Reynolds, 27th and Prescott Streets, Portland, Oregon.]

Pathology is the science that teaches how to tell a man has a stomach-ache, after he tells you he has a pain in his stomach.

1. Especially Beneficial
2. Good Combinations
3. Somewhat Undesirable
4. Particularly Harmful

| | Fats | Eggs | Milk | Grains | Vegetbls | Acid Fruits | Sweet Fruits | Sugars |
|---|---|---|---|---|---|---|---|---|
| Nuts with | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 2 |
| Nuts and fats with | | 3 | 3 | 2 | 2 | 2 | 2 | 3 |
| Nuts and Eggs | 3 | | 2 | 1 | 2 | 2 | 1 | 2 |
| Nuts and Milk | 3 | 3 | | 1 | 2 | 4 | 1 | 2 |
| Nuts and Grains | 2 | 1 | 1 | | 1 | 3 | 1 | 1 |
| Nuts and vegetables | 1 | 1 | 2 | 1 | | 3 | 1 | 2 |
| Nuts and acid fruits | 2 | 1 | 4 | 2 | 2 | | 2 | 3 |
| Nuts and sweet fruits | 2 | 1 | 1 | 1 | 1 | 2 | | 2 |
| Nuts and sugars | 3 | 2 | 2 | 1 | 2 | 2 | 2 | |
| Grains with | 1 | 2 | 1 | 1 | 2 | 3 | 2 | 2 |
| Grains and fats with | | 2 | 2 | 2 | 1 | 3 | 2 | 2 |
| Grains and eggs | 2 | | 1 | 1 | 2 | 3 | 2 | 2 |
| Grains and milk | 2 | 1 | | 1 | 3 | 4 | 2 | 2 |
| Grains and nuts | 2 | 1 | 1 | | 1 | 3 | 1 | 1 |
| Grains and vegetables | 1 | 2 | 2 | 1 | | 3 | 1 | 2 |
| Grains and acid fruit | 2 | 2 | 4 | 2 | 2 | | 2 | 3 |
| Grains and sweet fruit | 2 | 2 | 2 | 1 | 1 | 2 | | 2 |
| Grains and sugars | 2 | 2 | 2 | 1 | 2 | 2 | 2 | |
| Vegetables with | 1 | 2 | 4 | 1 | 2 | 3 | 2 | 3 |
| Vegetables and fats | | 2 | 2 | 3 | 1 | 3 | 2 | 3 |
| Vegetables and eggs | 2 | | 2 | 2 | 2 | 3 | 2 | 3 |
| Vegetables and milk | 2 | 3 | | 2 | 3 | 4 | 3 | 3 |
| Vegetables and nuts with | 1 | 1 | 3 | | 1 | 3 | 1 | 2 |
| Vegetables and Grains | 1 | 2 | 3 | 1 | | 3 | 1 | 2 |
| Vegetables and acid fruit | 3 | 3 | 4 | 2 | 3 | | 3 | 2 |
| Vegetables and sweet fruit | 2 | 2 | 3 | 1 | 1 | 3 | | 2 |
| Vegetables and sugars with | 2 | 2 | 4 | 2 | 2 | 3 | 2 | |
| Milk with | 2 | 1 | 2 | 1 | 4 | 4 | 1 | 3 |
| Milk and fats with | | 2 | 3 | 2 | 2 | 4 | 2 | 2 |
| Milk and eggs with | 2 | | 2 | 1 | 2 | 4 | 1 | 2 |
| Milk and nuts with | 3 | 2 | | 1 | 3 | 4 | 1 | 2 |
| Milk and grains with | 2 | 1 | 1 | | 3 | 4 | 2 | 2 |
| Milk and vegetables with | 2 | 2 | 2 | 3 | | 4 | 2 | 3 |
| Milk and acid fruits with | 4 | 4 | 4 | 4 | 4 | | 4 | 4 |
| Milk and sweet fruits with | 2 | 1 | 1 | 2 | 3 | 4 | | 2 |
| Milk and sugars with | 2 | 2 | 2 | 2 | 3 | 4 | 2 | |

| | Eggs | Milk | Nuts | Grains | Vegetbls | Acid Fruits | Sweet Fruits | Sugars |
|---|---|---|---|---|---|---|---|---|
| Fats with | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 2 |
| Fats and eggs with | | 2 | 3 | 2 | 2 | 2 | 2 | 2 |
| Fats and milk with | 2 | | 3 | 2 | 2 | 4 | 2 | 2 |
| Fats and nuts with | 3 | 3 | | 2 | 2 | 3 | 3 | 2 |
| Fats and grains with | 2 | 2 | 2 | | 1 | 2 | 2 | 2 |
| Fats and vegetables with | 2 | 2 | 1 | 1 | | 3 | 2 | 2 |
| Fats and acid fruits with | 2 | 4 | 2 | 2 | 3 | | 2 | 3 |
| Fats and sweet fruits with | 2 | 2 | 2 | 2 | 2 | 3 | | 3 |
| Fats and sugars with | 2 | 2 | 2 | 2 | 2 | 2 | 3 | |

1. Especially Beneficial
2. Good Combinations
3. Somewhat Undesirable
4. Particularly Harmful

| | Fats | Eggs | Milk | Grains | Vegetbls | Acid Fruits | Sweet Fruits | Sugars |
|---|---|---|---|---|---|---|---|---|
| Eggs with | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 2 |
| Eggs and fats with | | 2 | 3 | 2 | 2 | 2 | 2 | 3 |
| Eggs and Milk | 2 | | 2 | 1 | 3 | 4 | 1 | 2 |
| Eggs and Nuts | 3 | 2 | | 1 | 1 | 1 | 1 | 2 |
| Eggs and Grains | 2 | 1 | 1 | | 2 | 2 | 2 | 2 |
| Eggs and vegetables | 2 | 2 | 1 | 2 | | 3 | 1 | 2 |
| Eggs and acid fruits | 2 | 4 | 1 | 2 | 3 | | 4 | 2 |
| Eggs and sweet fruits | 2 | 1 | 1 | 2 | 2 | 2 | | 3 |
| Eggs and sugars | 2 | 2 | 2 | 2 | 2 | 2 | 3 | |
| Acid Fruits with | 2 | 2 | 4 | 2 | 3 | 3 | 3 | 2 |
| Acid Fruits and fats with | | 2 | 4 | 2 | 3 | 3 | 2 | 2 |
| Acid Fruits and eggs with | 2 | | 4 | 2 | 3 | 3 | 4 | 2 |
| Acid Fruits and milk with | 4 | 4 | | 4 | 4 | 4 | 4 | 4 |
| Acid Fruits and nuts with | 3 | 1 | 4 | | 3 | 3 | 2 | 3 |
| Acid Fruits and grains with | 2 | 2 | 4 | 3 | | 3 | 2 | 3 |
| Acid Fruit and vege. with | 3 | 2 | 4 | 3 | 2 | | 3 | 3 |
| Acid Fruits and sweet fruits | 3 | 2 | 4 | 2 | 2 | 3 | | 3 |
| Acid Fruits and sugars with | 2 | 2 | 4 | 2 | 2 | 3 | 4 | |
| Sweet Fruits with | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 2 |
| Sweet Fruits and fats with | | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Sweet Fruits and eggs with | 2 | | 1 | 1 | 2 | 2 | 4 | 3 |
| Sweet Fruits and milk with | 2 | 1 | | 1 | 2 | 3 | 4 | 2 |
| Sweet Fruits and nuts with | 3 | 1 | 1 | | 1 | 1 | 3 | 2 |
| Sweet Fruits and grains | 2 | 2 | 2 | 1 | | 1 | 3 | 2 |
| Sweet Fruit and vegetables | 2 | 1 | 2 | 2 | 1 | | 3 | 2 |
| Sweet Fruits and acid fruits | 2 | 2 | 4 | 2 | 2 | 3 | | 3 |
| Sweet Fruits and sugars | 3 | 3 | 2 | 2 | 2 | 2 | 4 | |
| Sugars with | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 |
| Sugars and fats with | | 3 | 2 | 3 | 2 | 3 | 2 | 2 |
| Sugars and eggs with | 2 | | 2 | 2 | 2 | 3 | 3 | 3 |
| Sugars and milk with | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| Sugars and nuts with | 2 | 2 | 2 | | 1 | 2 | 3 | 2 |
| Sugars and grains with | 2 | 2 | 2 | 1 | | 2 | 3 | 2 |
| Sugars and vegetables with | 2 | 2 | 3 | 2 | 2 | | 3 | 2 |
| Sugars and acid fruits with | 3 | 2 | 4 | 3 | 3 | 2 | | 3 |
| Sugars and sweet fruits | 3 | 3 | 2 | 2 | 2 | 2 | 4 | |

This combination chart was compiled by Eugene Christian, Food Specialist of New York City.

It is impractical to print ready reference tables showing the harmony of more than three articles, but the student can judge this sufficiently well for himself by comparing the respective harmonies of the several foods of the group. Nearly all stomach and intestinal troubles begin with SUPERACIDITY. This is caused by wrong COMBINATIONS OF FOOD.

IF YOU WISH TO LIVE ACCORDING TO LAW OF CHEMICAL HARMONY, FOLLOW CHART.

When preparing your food glance over your CHART, and you will make no mistake. In case of sickness make combinations represented by Fig. 1, that being the best combination.

# FOOD COMBINATIONS

The most gripping subject of the day is Human Health. Up to the present time the masses have given but little thought to their Mental and Physical well being. History shows a few shining examples of prodigious mental and physical strength, and in every instance such accomplishments were due to judicial living. If the masses could, or would, but emulate these few examples what a wonderful race we would have.

The very insistent demand on every hand for greater efficiency has at last brought out the fact that, in order to have efficiency we must first have health. Individuals, corporations and the governments are after efficiency, of which the great underlying fundamental is health. When it comes to the cruical test you are measured by the standard of your health. The individual that can do great things outside of himself is generally great inside—he is in good health.

Due to the present mode of living, the greatest sin committed against human health is wrong eating. Eating too much, eating wrong kinds of foods in relation to the individual's age, environment and the season of the year. Incorrect proportioning of Protein, Starches, Fats and Mineral Foods for the amount and kind of labor done. But, the greatest danger lies in faulty chemical combinations. Foods wrongly combined from the chemical standpoint generate about thirty-five destructive poisons within the human intestines.

In order to eliminate the manufacture of these deadly poisons from the Alimentary Canal, long years of experience have enabled me to devise a simple Chart which, from the chemical standpoint, covers practically the entire field of food combination. By studying the Chart and carefully reading my additional directions, you can make no mistake.

## CLASSIFICATION

| Alkaline Foods | Neutral Foods | Acid Foods |
|---|---|---|
| Casaba | Meat | Pineapple |
| Watermelon | Eggs | Lemons |
| Cantaloupe | Seafish | Grapefruit |
| Olives | Swiss Cheese | Cherries |
| Prunes | Nuts | Peaches |
| Grapes | Cocoanuts | Apricots |
| Raisins | Dry Beans | Oranges |
| Figs | Dry Peas | Apples |
| Bananas | Lentils | Strawberries |
| Pears | Soy Beans | Logan Berries |
| Celery | | |
| Lettuce | | |
| Spinach | | |
| Tomatoes | | |
| Onions | | |
| Cabbage | | |
| Kale | | |
| Brus'ls Sprouts | | |
| Dandelion | | |
| Asparagus | | |
| Radishes | | |
| Carrots | | |
| Turnips | | |
| Beets | | |
| Green Peas | | |
| String Beans | | |
| Green Corn | | |
| Potatoes, raw | | |

Mixed or combined as follows: Alkaline foods with neutral foods. Acid foods with neutral foods. MILK should NEVER be combined with acid or vegetable foods.

Milk can be combined with sweet fruits, but in case of sickness even that should not be done. Do not combine starches with acids.

When severe STOMACH TROUBLE exists, very careful combinations should be made.

**It is useless to study Astronomy without a foundation in rational Gastronomy. Learn to eat for Health.**


DR. H. A. STOCKDALE
NATUROPATH

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Bread, Cookies, Cakes, Pie Crusts, Oatmeal Breakfast Foods and all manner of Grain and Starchy foods, such as the Irish and Sweet Potato (including the Banana). All these are to be combined only with the first and second group, the Alkaline and Neutral foods. Scientifically speaking, the Carbohydrates or

(Starches) do not belong in any group given in the chart, but they combine best with the first two groups mentioned. The Irish and Sweet Potatoes are freaks in the vegetable kingdom; in their raw state they belong with the vegetables, but when cooked become a Starch and are then classed with the Grains. Banana holds the same relation in the fruit family.

Melons are a semi-sweet food, they combine well with the first and second groups, not quite so well with Milk, and not at all with the Acid Foods. Melons are a fine corrective food and should be used freely during their season.

The Neutral Group will combine well with any food, but are most palatable with the acids. When eating an acid with a neutral food do not take a starchy food with it, for the acids will not agree with the starches—this is very important when Stomach Trouble exists. The neutral foods are Fish and meats of all kinds; all kinds of Cheese, excepting Cottage Cheese. Cottage Cheese when quite dry and free of lactic acid, and combined with a good deal of pure Cream can be classed with neutral foods and combined accordingly; when it is fresh it combines well only with the neutrals. Nuts, Dry Beans or Peas, Lentils and Soy Beans are not only the most perfect substitutes for flesh foods, but, they are better foods from the standpoint of health.

The Acid Foods are very much abused, or rather they abuse the body when injudiciously combined with other foods, especially with starches and milk; the acids coagulate the protein in milk into a solid ball of curd rendering it almost absolutely indigestible. Acids cause the starches to violently ferment—they will not mix; instead they set up a chemical reaction in the stomach and bowels and literally explode; the liberated poisons are absorbed into the circulatory system and poison every atom of the body.

Fats: Butter, Vegetable and Animal Oils, and all classes of fat Flesh Foods combine admirably with all other foods; however, there is some danger in eating too much of these foods. Fats are a highly concentrated food, persons leading a sedentary life should be especially careful and not over eat of them. Those who can assimilate such foods are liable to obesity, while those who cannot become emaciated and thin. Fatty foods and Oils retard the natural flow and secretion of the digestive juices, but vegetables and fruits have the opposite effect. To stimulate the flow of the gastric juices at meal time eat some greens or fruits first, this is a good rule in cases of chronic indigestion. Fats also generate injurious fatty acids; only people who work very hard need this class of food.

Sugar is a Carbohydrate of a very stimulating nature. It gives quick energy which lasts only for a short period; sugar is a false nutrient and very unnecessary in the Temperate and Torrid Climates. There is no single food in existance which undermines so quickly and completely the enduring qualities of Man. If too much of this food is eaten its destructive acids undermine the stability of the Alkiline Salts of the body, which are like the stones in a wall of a foundation; this is most plainly evidenced in our teeth, they may be soft and crumbly, or full of cavities; other parts of the body suffer likewise but the evidence in more hidden or is longer in coming to light. In destructive influence I would say sugar is as dangerous as liquor, if not more so, at this present date. If a desire is felt for sweets, use Honey and Sweet Fruits.

Demineralized foods are Sugar, White Flour and all foods to a certain extent that are over-cooked Over-cooking destroys the mineral value of foods according to the length of time in cooking and the intensity of heat used. The U. S. Government Bulletin No. 141, page 46, says: "Beef round, lean, small pieces, duration of cooking two hours. Loss of Ash (or Mineral) was seventy per cent." This is only a single example, but it applies to every cooked food in a lesser or greater degree. The diet of today is woefully deficient in Organic Salts. The medical and food authorities give this vitaly important point little attention. One

part of an Enzyme, a powerful digestive fluid, can digest forty thousand parts of food without hardly any loss to itself. These and many other wonderful digestive juices are manufactured principally from the mineral matter which the body obtains from foods.

The great importance of Organic Mineral Matter in our diet can hardly be overestimated. If we eat less of the high mineral containing food than our body needs, we become demineralized, and that is a state of disease. Foods that are heavy in mineral are extremely efficacious in counteracting bodily poisons. If you wish to maintain the vigorous stamina that your body is heir to, eat at least a pound of raw food each day, such as fruits and vegetables. Keep this up for a few months and you will be surprised at the general increase of your efficiency and health. Study the chart giving the minerals in the different foods and you will make no mistake.

It has been said that most people do not die—they kill themselves with their own poisons that are manufactured in their system. Indiscreet eating is directly responsible for nearly all human woes; some lose their snap and vigor and pass through life in a sort of shiftless-don't-care manner; some develop a melancholy and pessimistic nature which renders them unsuccessful in social and business life, and there are a few who even sink into the most abysmal brutality and crime. All this is not done by pure intent. Such persons are sick, sick because the chemical condition of their body is off balance, due primarily to what and how they eat. No man has a right to abuse or neglect his health. He owes it to himself, to his posterity and to his Maker, intelligent endeavor to be physically strong and well. There is nothing sadder that can befall us on earth than, after having enjoyed the blessings of health and vigor, to be laid aside because of physical decay—we have become physically incompetent. All this can be warded off only by intelligent health culture.—Dr. H. A. Stockdale, 416 Panama Building, Portland, Oregon.

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The enlightened life is one of moderation in all things, but especially in the matter of diet.

Try to exercise a little each day, it is vitally essential for the distribution of bodily nutriment, also for elimination of morbid matter. If you wish to be useful to others, look after your health first.

Everything we get in this world we must pay for. If you want good health you must pay for it with regular attention to your physical needs.

Do not worry under any circumstances, it does only harm.

Cool constructive thinking will stop many of your troubles.

Be a master of your forces and try to live the healthy and efficient life.

The more simple one's diet, the less the craving of the nervous system for unnatural foods and harmful stimulants.

It is quite impossible to have peace in the head and war in the stomach. Course eating and fine thinking is incompatible.

Don't try to live upon mushes, soups and other easily swallowed foods. Cultivate a liking for fibrous and more firm foods that need to be masticated. They will bring you health.

You owe it to yourself to learn how to get the most out of your mental and physical faculties. Don't be a health slacker.

The cook stove is very useful but is very much abused by over work. We should cook less and eat more raw food.

# CALORIC, WEIGHT AND PROPORTION CHART

| NAME OF FOOD | PORTIONS CONTAINING ABOUT 100 CALORIES | Ounces in 100 Calories | |
|---|---|---|---|
| **CEREALS** | | | |
| Bread, brown or graham | Ordinary thick slice | 1.2 | **Heat snd Energy Foods** |
| Bread, corn | Small square | 1.4 | These are highly concentrated starches. Less should be eaten of them in hot weather, and when fermentation is present in the stomach and intestines. |
| Corn Flakes, toasted | Ordinary dish level full | 1. | |
| Corn Meal Mush | 1 Serving, large | 4. | |
| Corn Starch | 1 Ordinary serving | 4.2 | |
| Crackers, graham or white | 2 Large square crackers | 0.8 | |
| Crackers, soda or oatmeal | The same | | |
| Cracked Wheat, cooked | 1 Serving | 3.8 | |
| Graham Gems or Puffs | 3 Gems or Puffs | 1.3 | |
| Macaroni, cooked | Ordinary serving | 4. | |
| Oatmeal Mush | 1½ Serving | 5.5 | |
| Rice, boiled | Ordinary cereal dish | 3.1 | |
| Shredded Wheat Biscuit | 1 Biscuit | 1. | |
| Wheat Flakes, toasted | 1 Serving, large | 1. | |
| **FRUITS** | | | |
| Apple sauce | Ordinary serving | 4. | **Blood Purifiers and Laxatives** |
| Apples, fresh | 2 Large ones | 5.4 | In their fresh state these foods are wonderful blood toners. In the dry form they furnish as much heat and energy as the cereals do, and have the same beneficial qualities as when fresh. There is no better winter food. |
| Apples, baked | 2 Small or 1 very large | 3.3 | |
| Apricots, cooked | Large serving | 4.7 | |
| Bananas | 1 Large serving | 3.5 | |
| Cantaloupe | Half ordinary serving | 8.6 | |
| Cherries, fresh | 2 Servings | 4.4 | |
| Dates | 4 Large | 1. | |
| Figs | 2 Very large or 2 small | 1.1 | |
| Grape Juice | 1 Small glass | 4.2 | |
| Grape Fruit with sugar | 1 Grape Fruit | 5. | |
| Grapes, fresh | 1 Average bunch | 3.5 | |
| Orange Juice | 1 Large glass | 6.6 | |
| Oranges | 1 Very large | 6.7 | |
| Peaches, fresh | 3 Ordinary | 7.7 | |
| Pears, fresh | 1 Large | 5.4 | |
| Pears, dry | | ½ | |
| Plums, fresh | 3 Large | 4. | |
| Prune Sauce | 6 Large | 3.6 | |
| Prunes, dried | 3 Large ones | 1.1 | |
| Raisins, stewed | ½ Ordinary serving | 1.5 | |
| Raspberries, fresh | 2 Servings | 8.8 | |
| Strawberries, fresh | 2 Servings | 8.8 | |
| Tomatoes, canned or fresh | 4 Servings | 15. | |
| Watermelon | 1 Ordinary piece | 11.3 | |
| **NUTS** | | | **Heat and Energy Foods** |
| Almonds | About 8 | 0.6 | Should be very well masticated. The best meat substitutes. |
| Cocoanut, prepared | Ordinary serving | 0.5 | |
| Filberts | 10 Nuts | 0.5 | |
| Pecans | About 8 | 0.5 | |
| Pine Nuts | About 80 | 0.6 | |
| Walnuts, English | About 6 | 0.5 | |

There is enough protein in 1 pound of unpolished rice, or 10 ounces of whole wheat flour, or 7 ounces of shelled walnuts, or 8 ounces of almonds, or ¼ pound of lentils for the daily need of even the most strenuous physical and mental worker; besides all these plantfoods contain considerable quantities of carbohydrate and organic or nutritive salts.

# CALORIC, WEIGHT AND PROPORTION CHART

| NAME OF FOOD | PORTIONS CONTAINING ABOUT 100 CALORIES | Ounces in 100 Calories | |
|---|---|---|---|
| VEGETABLES | | | |
| Asparagus, cooked | 1 Serving | 7.6 | |
| Beans, baked | Small side dish | 2.7 | |
| Beans, string | 5 Servings | 16. | |
| Beets, cooked | 3 Servings | 8.6 | **Mineral Foods** |
| Cabbage, boiled | 4 Servings | 18 | This group of |
| Carrots | 2 Servings | 10. | foods WILL GIVE |
| Cauliflower | 4 Servings | 12. | YOU HEALTH, WILL |
| Celery, raw | 12 Average stalks | 18. | cure your consti- |
| Corn, Sweet, stewed | Ordinary serving | 3.5 | pation, will purify |
| Cucumber, raw, sliced | 5 Servings | 20. | your blood. It will |
| Greens, Dandelion | 2 Large servings | 10. | equalize bodily |
| Lettuce Salad | 5 or six servings | 5.6 | functions. It can |
| Onions, cooked | 2 Large servings | 8.8 | give you a new |
| Parsnips | 2 Servings | 5.8 | life. |
| Peas, green, cooked, plain | 2 Servings | 3. | Think it over. |
| Potatoes, baked or mashed | 1 Large size | 3.1 | |
| Potatoes, boiled | 1 Large one | 3.7 | |
| Potatoes, Sweet, baked | 1 Medium size | 1.7 | |
| Pumpkin, cooked | 2 Large servings | 5.4 | |
| Spinach, cooked | 2 Ordinary servings | 6. | |
| Squash, cooked | 2 Servings | 5. | |
| Turnips, cooked | 3 Ordinary servings | 16. | |
| FLESH FOODS | | | |
| Beef, boiled, average lean | Large serving | 3.6 | **Heat and Energy Foods** |
| Beef, boiled, average fat | Small serving | 1. | I do not recom- |
| Beef, porterhouse or sirloin | Very small steak | 2.6 | mend flesh foods. |
| Salmon | Small serving | 1.7 | |
| Halibut, steak | Ordinary serving | 2.6 | |
| Trout, (brook) | 2 small serving | 4.5 | |
| ANIMAL PRODUCTS | | | |
| Butter, creamery | 1 Ordinary square or ball | 0.4 | **Heat and Energy Foods** |
| Cheese, cottage | 4 Cubic inches | 3. | Cheese is as good |
| " Ameri., pale or cream | ½ Cubic inches | 0.9 | a meat substitute |
| Cream, | ¼ Ordinary glass | 1.7 | as nuts. |
| Eggs, boiled | 1 Extra large | 2. | |
| Milk, whole | 1 Small glass | 5. | |
| Peanuts and peanut butter | 1 Serving | 0.7 | |
| MISCELLANEOUS | | | |
| Cereal coffee, sugar, cream | 1 Cup | 6. | **Heat and Energy Foods** |
| Cocoa, sugar and cream | 1 Cup | 6. | These are good |
| Honey | 1 Tablespoon, cold honey | 1.1 | when properly |
| Pie, cream or pumpkin | ⅛ Ordinary piece | 3.5 | combined and used |
| Pie, custard | One-third ordinary size | 1.3 | |
| Pudding, cream or rice | Very small serving | 1.8 | |
| Tapioca, cooked | Ordinary serving | 2.2 | |

This Chart will greatly add to the convenience of selecting your Menus according to Calorie Content. Dr. H. A. Stockdale, Portland, Oregon.

## HOW TO FIND YOUR INDIVIDUAL FOOD REQUIREMENTS

First, consult the table and see what the ideal weight is for your height. This table will also give the proper number of calories for the ideal weights. If you are under the ideal weight for your height, add five calories a day to your diet for each pound underweight. If you are over the ideal weight, subtract ten calories a day for each pound over weight.

The table is made up for people of sedentary habits, with daily exercise equal to two hours walking. For each additional hour of active physical labor or exercise, add one hundred calories.

NOTE: Do not confuse work that is fatiguing from cramped posture with labor involving the active use of the larger muscles.

A woman of the same weight requires less food than a man, as less of the ideal feminine body is composed of muscular tissue.

| | MEN | | WOMEN | |
|---|---|---|---|---|
| HEIGHT | IDEAL WEIGHT | Number of Calories Required | IDEAL WEIGHT | Number of Calories Required |
| 4 feet 10 inches | | | 115 | 1700 |
| 4 " 11 " | | | 117 | 1720 |
| 5 " 0 " | | | 119 | 1750 |
| 5 " 1 " | | | 121 | 1780 |
| 5 " 2 " | 126 | 2050 | 123 | 1810 |
| 5 " 3 " | 129 | 2095 | 126 | 1850 |
| 5 " 4 " | 132 | 2140 | 130 | 1900 |
| 5 " 5 " | 136 | 2200 | 134 | 1950 |
| 5 " 6 " | 140 | 2260 | 138 | 2000 |
| 5 " 7 " | 144 | 2320 | 142 | 2050 |
| 5 " 8 " | 148 | 2380 | 146 | 2100 |
| 5 " 9 " | 152 | 2440 | 150 | 2150 |
| 5 " 10 " | 156 | 2500 | 154 | 2200 |
| 5 " 11 " | 160 | 2560 | | |
| 6 " 0 " | 165 | 2635 | | |
| 6 " 1 " | 171 | 2725 | | |
| 6 " 2 " | 177 | 2815 | | |

This Chart I borrow from Dr. Eugene Christian, the Pioneer in Food Science and the ablest Dietician of the present age. DR. H. A. STOCKDALE.

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The diet of primitive man was of things that grew out of the earth and upon trees.

The best foods are injurious when over-eaten or when wrongly combined with other foods.

To thoroughly energise every muscle of the body, walk five or six miles each day in a brisk manner or do work equivalent in amount.

More men dig their own graves with their teeth than starve to death.—Dr. H. A. Stockdale.

# HOW MUCH SHOULD WE EAT?

In order to determine your individual food requirements you may simply refer to Chart giving Height, Weight and Number of Calories, then refer to Chart giving Calories in ounces. This will enable you to arrange each meal according to the number of Calories you wish to eat. If your attention is properly given to the charts and statements contained in this book, you will obtain certain and most gratifying results.

The principle of adjusting one's diet should be fundamentally the same as running an automobile or some other intricate machine. If in a certain distance we feed the automobile two or three gallons of gasoline when only one is needed, the carburetors become clogged, the bearings strained and general damage results to the mechanism. A more lucid example would be to turn the power full, then put the brakes on; only a fool would try that, but some persons actually try that on their body. They take in a lot of power through the medium of food, and never try to use it up—they are continually exploding from fermentation.

Eating should be like the counting and spending of money: if you have a one dollar bill and a twenty dollar bill, you can purchase twenty times as much with the twenty dollar bill as you can with the one, yet they are of the same size. You can buy for ten cents a pound of food which will give you only one hundred calories or fifteen hundred calories. When you know the different values of money you can not be cheated, but you are constantly cheating yourself of money and health by not knowing the different values of food.

Eating should be governed according to the calorie principle, the unit of measuring the heat energy of food. One calorie of food energy in your body means the same as one pound of steam in a boiler. It takes a certain amount of fuel to make a hundred pounds of steam. If too much fuel is given and no power used, we cause an explosion. One ordinary thick slice of bread, weighing one and three-tenths ounces will give you one hundred calories; that will furnish energy to walk nearly two miles. It takes twelve ordinary stalks of celery, weighing eighteen ounces, to produce the same amount of energy, costing many times more. You can walk one mile on sixty calories; on two thousand five hundred calories you can walk forty-two miles in one day. If you eat that much food and do not perform physical labor equal to such a walk, you are perhaps eating too much. However, it should be considered that a few persons use up more nerve force than others in doing the same amount of work. With the assistance of the Charts you can adjust this to an exactness, when you will be in possession of eating the correct amount.

Sickness is an unnecessary self-inflicted calamity. Don't be a shameful and sorry burden to yourself, family, friends and the Nation; a sniveling, useless, diseased element called man or woman. Be the real article—straight of spine, high upstanding chest, wide open eyes scintilating with unflinching courage; a red-blooded man that can, and will, do his share in all things. Such men and women the Nation needs at this hour. Be one of them and proudly bear the heritage of nature.

DR. H. A. STOCKDALE.

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